

# THE MATHEMATICS TEACHER

## Classified Index, Volume 84

1991

### Author Index

- Ajose, Sunday. Patterns in the Hundred Chart—Part 1. Jan., 43–48.
- . Patterns in the Hundred Chart—Part 2. Feb., 118–24.
- Arnold, Connie B., Diane Bohannon, Katherine Goan, Cathy Mamantov, Suzanne H. Reed, Sallee H. Reynolds, and Cathy Stellern. Classroom Atmosphere. Dec., 724.
- Artzt, Alice F., and Claire M. Newman. Equivalence: A Unifying Concept. Feb., 128–32.
- Aslan, Farhad, Ramona Chance, John F. Lamb, Jr., and Jerry D. Lowe. Inscribing an "Approximate" Nonagon in a Circle. May, 396–98.
- Aubrey, Alison, and Richard J. Crouse. The Human Coordinate System. Feb., 108–9.
- Baker, Patricia Cooper. Supply and Demand—an Application of Linear Equations. Oct., 554–59.
- Bannon, Thomas J. Fractals and Transformations. Mar., 178–85.
- Barbeau, Edward J. A Holistic Approach to Algebra. Oct., 522–25.
- Baumler, Marian. Tips for Note Taking. Dec., 725.
- Beattie, Ian D., and Walter Szetela. Graphic Methods for Instruction in Data Analysis. Apr., 308–13.
- Bhattacharya, Dipendra N., and Nancy Rhodes Tometsko. Earthquakes and Black Coffee. Oct., 541–42.
- Bitter, Gary G., and Mary M. Hatfield. Communicating Mathematics. Nov., 615–22.
- Blomquist, Ann. Be Your Own Substitute. Apr. 285–86.
- Bohannon, Diane, Connie B. Arnold, Katherine Goan, Cathy Mamantov, Suzanne H. Reed, Sallee H. Reynolds, and Cathy Stellern. Classroom Atmosphere. Dec., 724.
- Boyd, A. V., and M. J. Glencross. Dissecting a Circle by Chords through  $n$  Points. Apr., 318–19.
- Braden, Lawrence S. My Favorite Rate Problems. Nov., 635–38.
- Brady, Mary L. Keeping Current with Technology. Feb., 92–96.
- Browne, Joseph. Digits Count: Significant Digits and Calculators. May, 344–46.
- Bush, William S., Marvin T. Moss, and Michael J. Seiler. An Alternative to Traditional Student Teaching. Oct., 533–37.
- Calahan, Rebecca S. From the Beginning. Sept., 454–55.
- Camp, Dane R. A Fractal Excursion. Apr., 265–75.
- Carl, Iris, and Shirley M. Frye. The NCTM's *Standards*: New Dimension in Leadership. Oct., 580–85.
- Catlett, Jeffrey A. Bingo in the Mathematics Classroom. May, 370–72.
- Chance, Ramona, Farhad Aslan, John F. Lamb, Jr., and Jerry D. Lowe. Inscribing an "Approximate" Nonagon in a Circle. May, 396–98.
- Clopton, Edwin L. Area and Perimeter Are Independent. Jan., 33–35.
- Cohen, Donald. Estimating the Volumes of Solid Figures with Curved Surfaces. May 392–95.
- Cox, Roger D. A Probability Problem Involving Calculus. May, 402–5.
- Crouse, Richard J., and Alison Aubrey. The Human Coordinate System. Feb., 108–9.
- Crouse, Richard J., and Marilyn J. Sweeney. Algebra Tic-Tac-Toes. May 366–67.
- Cuevas, Gilbert J. Developing Communications Skills in Mathematics for Students with Limited English Proficiency. Mar., 186–89.
- Dick, Thomas, and J. Michael Shaughnessy. Monty's Dilemma: Should You Stick or Switch? Apr., 252–56.
- Dobbs, David E., and John C. Peterson. The Sign-Chart Method for Solving Inequalities. Nov., 657–64.
- Dreyfus, Tommy, and Alex Friedlander. Is the Graph of  $y = kx$  Straight? Oct., 526–31.
- Duncan, David R., and Bonnie H. Litwiller. Elevator Probabilities: Chances of Coincidences. Jan., 64–65.
- Easterday, Kenneth, and Tommy Smith. A Monte Carlo Application to Approximate Pi. May, 387–90.
- Ericksen, Donna Bird, Martha L. Frank, and Ryan Kelley. WITPO (What Is the Probability Of). Apr., 258–64.
- Esty, Warren W. Finding Points of Intersection of Polar-Coordinate Graphs. Sept., 472–77.
- Fairbairn, Donald M. Starring in Mathematics. Sept., 463–70.
- Falba, Christy J., and Maria J. Weiss. Mathenger Hunt: Mathematics Matters. Feb., 88–90.
- Farnsworth, David L. Introducing Probability. Oct., 542–43.
- Frank, Martha L. Put Some POW in Your First-Year Algebra Classes. May, 347–49.
- Frank, Martha L., Donna Bird Ericksen, and Ryan Kelley. WITPO (What Is the Probability Of). Apr., 258–64.
- Frantz, Marny, and Sylvia Lazarnick. The Mandelbrot Set in the Classroom. Mar., 173–77.
- Freier, Lois Whitman, and Barnabas B. Hughes. O.F.M. The Sierra Curve—an Introduction to Periodic Concepts. Sept., 434–41.
- Friedlander, Alex, and Tommy Dreyfus. Is the Graph of  $y = kx$  Straight? Oct., 526–31.
- Friedman, Mordechai Lawrence. A Strategy for Beginning Class. Oct., 538–39.
- Frye, Shirley M., and Iris Carl. The NCTM's *Standards*: New Dimension in Leadership. Oct., 580–85.
- Glencross, M. J., and A. V. Boyd. Dissecting a Circle by Chords through  $n$  Points. Apr., 318–19.



- Glidden, Peter L. Teachers' Reasons for Instructional Decisions. Nov., 610-14.
- Goan, Katherine, Connie B. Arnold, Diane Bohannon, Cathy Mamantov, Suzanne H. Reed, Sallee H. Reynolds, and Cathy Stellern. Classroom Atmosphere. Dec., 724.
- Gordon, Marshall. Counterintuitive Instances Encourage Mathematical Thinking. Oct., 511-15.
- Grassl, Richard M., Karen Anne Johnson, and Rachel Vickrey. Compositions of Positive Integers. Mar., 228-33.
- Green, Wallis. Maintaining Vitality. Jan., 32.
- Hatfield, Mary M., and Gary G. Bitter. Communicating Mathematics. Nov., 615-22.
- Herrmann, James P. Graphing Composites of Trig and Arc trig Functions. Mar., 194-95.
- Hersberger, Jim, and Gary Talsma. Improving Students' Understanding of Geometric Definitions. Mar., 192-94.
- Hirsch, Christian R., Cameron Nichols, and Marcia Weinhold. Trigonometry Today. Feb., 98-106.
- Hoehn, Larry. Problem Posing in Geometry. Jan., 10-14.
- Howard, Arthur C. Addition of Fractions—the Unrecognized Problem. Dec., 710-13.
- Hughes, Barnabas B., O.F.M., and Lois Whitman Freier. The Sierra Curve— an Introduction to Periodic Concepts. Sept., 434-41.
- Hurd, Spencer P. Egyptian Fractions: Ahmes to Fibonacci to Today. Oct., 561-68.
- Hurwitz, Marsha. Conjecturing with Logarithms. Jan., 35-36.
- . Discovering the Law of Sines. Nov., 634-35.
- Johnson, Karen Anne, Richard M. Grassl, and Rachel Vickrey. Compositions of Positive Integers. Mar., 228-33.
- Judson, Carolyn. Maximizing Class Time, Oct., 539.
- Kareck, Thomas J. Mathematics, a Moving Experience. Sept., 452-53.
- Keports, David. A Map-coloring Algorithm. Dec., 759-63.
- Kelley, Ryan, Donna Bird Ericksen, and Martha L. Frank. WITPO (What Is the Probability Of). Apr., 258-64.
- Kimball, Robert L. Make Your Own Problems—and Then Solve Them. Nov., 647-55.
- Kimmins, Dovie. The Probability That a Quadratic Equation Has Real Roots: An Exercise in Problem Solving. Mar., 222-27.
- Kotiah, Thoddi C. T. Complete the Square Earlier. Dec., 730-31.
- Krenek, Ray A. Calculating Surface Area. May, 367-69.
- Kroll, Diana Lambdin, and Frank K. Lester, Jr. Evaluation: A New Vision. Apr. 276-84.
- Kysh, Judith. First-Year Algebra. Dec., 715-22.
- Laing, David R., and Arthur T. White. Exhibiting Connections between Algebra and Geometry. Dec., 703-5.
- Lamb, John F., Jr. Trisecting an Angle—Almost, Part 2. Jan., 20-23.
- Lamb, John F., Jr., Farhad Aslan, Ramona Chance, and Jerry D. Lowe. Inscribing an "Approximate" Nonagon in a Circle. May, 396-98.
- Lazarnick, Sylvia, and Marny Frantz. The Mandelbrot Set in the Classroom. Mar., 173-77.
- Lefton, Phyllis. Number Theory and Public-Key Cryptography. Jan., 54-62.
- LeGere, Adele. Collaboration and Writing in the Mathematics Classroom. Mar., 166-71.
- Lester, Frank K., Jr., and Diana Lambdin Kroll. Evaluation: A New Vision. Apr. 276-84.
- Levine, Deborah R. Solving the Homework Problem. Sept., 455-56.
- Lightner, James E. A Brief Look at the History of Probability and Statistics. Nov., 623-30.
- . A Chain of Influence in the Development of Geometry. Jan., 15-19.
- Litwiller, Bonnie H., and David R. Duncan. Elevator Probabilities: Chances of Coincidences. Jan., 64-65.
- Lowe, Jerry D., Farhad Aslan, Ramona Chance, and John F. Lamb, Jr. Inscribing an "Approximate" Nonagon in a Circle. May, 396-98.
- Lubecke, André M., and Walter M. Patterson, III. A Special Circle for Quadratic Equations. Feb., 125-27.
- Lubecke, André Michelle. Which Mean Do You Mean? Jan., 24-28.
- McIntosh, Margaret E. No Time for Writing in Your Class? Sept., 423-33.
- Mahoney, Maureen Wilkins. MTV in Your Classroom. Sept., 450-52.
- Malkevitch, Joseph. Bin Packing: A Mathematical Application. Jan., 29-31.
- Mamantov, Cathy, Connie B. Arnold, Diane Bohannon, Katherine Goan, Suzanne H. Reed, Sallee H. Reynolds, and Cathy Stellern. Classroom Atmosphere. Dec., 724.
- Matras, Mary Ann. Technology in the Classroom: Beginnings and Endings. Feb., 86-87.
- Meeks, Kay I. Note Taking in Mathematics Class. Mar., 190-91.
- Meuser, Mark H. Mathematics Education in Britain: An American Viewpoint. May, 352-55.
- Miller, L. Diane. Writing to Learn Mathematics. Oct., 516-21.
- Miller, William A. Recursion and the Central Polygonal Numbers. Dec., 738-46.
- Millman, Richard S., and Ramona R. Speranza. The Artist's View of Points and Lines. Feb., 133-38.
- Morrell, Linda A. Graphing Inequalities with the y-Intercept. Apr., 294-95.
- Moss, Marvin T., William S. Bush, and Michael J. Seiler. An Alternative to Traditional Student Teaching. Oct., 533-37.
- Newman, Claire M., and Alice F. Artzt. Equivalence: A Unifying Concept. Feb., 128-32.
- Nichols, Cameron, Christian R. Hirsch, and Marcia Weinhold. Trigonometry Today. Feb., 98-106.
- Olson, Melfried. A Geometric Look at Greatest Common Divisor. Mar., 202-8.
- . Odd Factors and Consecutive Sums: An Interesting Relationship. Jan., 50-53.
- O'Shea, Thomas. A Diary of Two Problem Solvers. Dec., 748-53.



- Pagni, David L. Counting Squares. Dec., 754-58.
- Parker, Ruth E. What Will Implementation Take? Sept., 442-49, 478.
- Patterson, Walter M., III, and Andre M. Lubecke. A Special Circle for Quadratic Equations. Feb., 125-27.
- Peterson, John C., and David E. Dobbs. The Sign-Chart Method for Solving Inequalities. Nov., 657-64.
- Pleacher, David. Activities to Introduce Maxima-Minima Problems. May, 379-86.
- Polis, Christopher. Pick's Theorem Extended and Generalized. May, 399-401.
- Rahn, James R. Giving Meaning to Volume in Calculus. Feb., 110-12.
- Reed, Suzanne H., Connie B. Arnold, Diane Bohannon, Katherine Goan, Cathy Mamantov, Sallee H. Reynolds, and Cathy Stellern. Classroom Atmosphere. Dec., 724.
- Reynolds, Sallee H., Connie B. Arnold, Diane Bohannon, Katherine Goan, Cathy Mamantov, Suzanne H. Reed, and Cathy Stellern. Classroom Atmosphere. Dec., 724.
- Schimmel, Judith. A Celebration in Honor of Isaac Newton. Dec., 727-30.
- Schwartzman, Steven. The Circle and Sphere as Great Equalizers. Nov., 666-72.
- Seiler, Michael J., William S. Bush, and Marvin T. Moss. An Alternative to Traditional Student Teaching. Oct., 533-37.
- Shaughnessy, J. Michael, and Thomas Dick. Monty's Dilemma: Should You Stick or Switch? Apr., 252-56.
- Smith, Tommy, and Kenneth Easterday. A Monte Carlo Application to Approximate  $\pi$ . May, 387-90.
- Socha, Susan. Questions with Multiple Answers. Nov., 638-40.
- Speranza, Ramona R., and Richard S. Millman. The Artist's View of Points and Lines. Feb., 133-38.
- Spiegel, Carol. Grading Schemes that Reward Students. Nov., 631.
- Stallings-Roberts, Virginia. An ABSOLUTE-ly VALUE-able Manipulative. Apr., 303-7.
- Stellern, Cathy, Connie B. Arnold, Diane Bohannon, Katherine Goan, Cathy Mamantov, Sallee H. Reynolds, and Cathy Stellern. Classroom Atmosphere. Dec., 724.
- Steman, Pamela Wheeler. Understanding Limits. Apr., 286-87.
- Stewart, Eric Lane. Using Music in the Classroom. Nov., 632.
- Sweeney, Marilyn J., and Richard J. Crouse. Algebra Tic-Tac-Times. May 366-67.
- Swetz, Frank. Incorporating Mathematical Modeling into the Curriculum. May, 358-65.
- Szetela, Walter, and Ian D. Beattie. Graphic Methods for Instruction in Data Analysis. Apr., 308-13.
- Talsma, Gary, and Jim Hersberger. Improving Students' Understanding of Geometric Definitions. Mar., 192-94.
- Taylor, Michael D. Student Participation: An Experiment in Teaching Calculus. Oct., 543-46.
- Teppo, Anne. Van Hiele Levels of Geometric Thought Revisited. Mar., 210-21.
- Tometsko, Nancy Rhodes, and Dipendra N. Bhattacharya. Earthquakes and Black Coffee. Oct., 541-42.
- Varnadore, James. Pascal's Triangle and Fibonacci Numbers. Apr., 314-16, 319.
- Vickrey, Rachel, Richard M. Grassl, and Karen Anne Johnson. Compositions of Positive Integers. Mar., 228-33.
- Wadovich, Dorothy Hoy. Euclid and Descartes: A Partnership. Dec., 706-9.
- Weinhold, Marcia, Christian R. Hirsch, and Cameron Nichols. Trigonometry Today. Feb., 98-106.
- Weiss, Maria J., and Christy J. Falba. Mathenger Hunt: Mathematics Matters. Feb., 88-90.
- White, Arthur T., and David R. Laing. Exhibiting Connections between Algebra and Geometry. Dec., 703-5.
- Whitman, Nancy. Line and Rotational Symmetry. Apr., 296-302.

## Subject Index

### Algebra

- Products, 332, 334, 408, 576.
- Publications, 67, 144, 146, 235-36, 238, 324-25, 329, 332, 406, 489, 490, 492, 493, 571-72, 674, 675, 678, 765, 768, 769-70.
- Reader Reflections, 8, 49, 82-83, 84, 148, 149, 152, 159, 163, 164, 244, 249, 313, 317, 336, 418, 420 (see also Jan., 35-36), 480, 482, 500 (see also Sept., 418, 420), 508, 586, 588, 590, 596, 600-01 (see also Jan., 8, 24-28, 49), 608, 687, 688 (see also Mar., 160, 163).
- Activities to Introduce Maxima-Minima Problems. May, 379-86.
- Algebra Tic-Tac-Times. May 366-67.
- An ABSOLUTE-ly VALUE-able Manipulative. Apr., 303-7.
- Complete the Square Earlier. Dec., 730-31.
- Conjecturing with Logarithms. Jan., 35-36.
- Counting Squares. Dec., 754-58.
- A Diary of Two Problem Solvers. Dec., 748-53.
- Earthquakes and Black Coffee. Oct., 541-42.
- Exhibiting Connections between Algebra and Geometry. Dec., 703-5.
- First-Year Algebra. Dec., 715-22.
- A Fractal Excursion. Apr., 265-75.
- Fractals and Transformations. Mar., 178-85.

To assist readers in finding entries in "Publications," "Products," "Projects," "Reader Reflections," and "Technology Reviews," the inclusive page numbers for each monthly issue are as follows: January 1-76; February: 77-152; March: 153-244; April: 245-336; May: 337-412; September: 413-504; October: 505-596; November: 597-688; December 689-780.



Graphing Inequalities with the y-Intercept. Apr., 294-95.

A Holistic Approach to Algebra. Oct., 522-25.

The Human Coordinate System. Feb., 108-9.

Is the Graph of  $y = kx$  Straight? Oct., 526-31.

Keeping Current with Technology. Feb., 92-96.

Make Your Own Problems—and Then Solve Them. Nov., 647-55.

The Mandelbrot Set in the Classroom. Mar., 173-77.

Mathematics, a Moving Experience. Sept., 452-53.

My Favorite Rate Problems. Nov., 635-38.

Pick's Theorem Extended and Generalized. May, 399-401.

The Probability That a Quadratic Equation Has Real

Roots: An Exercise in Problem Solving. Mar., 222-27.

Put Some POW in Your First-Year Algebra Classes. May, 347-49.

The Sign-Chart Method for Solving Inequalities. Nov., 657-64.

A Special Circle for Quadratic Equations. Feb., 125-27.

Supply and Demand—an Application of Linear Equations. Oct., 554-59.

### Applications

Projects, 70-71.

Publications, 142, 144, 236, 325-26, 493, 571, 573, 574, 608, 674, 679, 687, 766, 768, 770.

Bin Packing: A Mathematical Application. Jan., 29-31.

Incorporating Mathematical Modeling into the Curriculum. May, 358-65.

Number Theory and Public-Key Cryptography. Jan., 54-62.

Which Mean Do You Mean? Jan., 24-28.

### Arithmetic

Products, 773.

Publications, 325, 573, 679, 764.

Reader Reflections, 83, 480, 500.

Addition of Fractions—the Unrecognized Problem. Dec., 710-13.

Digits Count: Significant Digits and Calculators. May, 344-46.

A Geometric Look at Greatest Common Divisor. Mar., 202-8.

Patterns in the Hundred Chart—Part 1. Jan., 43-48.

Patterns in the Hundred Chart—Part 2. Feb., 118-24.

### Basic Skills

See "Curriculum" or content area.

### Book Reviews

See "Publications" under content areas.

### Calculus

Products, 496, 498, 576, 578.

Publications, 66-67, 68, 70, 140, 142, 236, 492, 496, 572-73, 574-75, 674-75, 678, 765, 770.

Reader Reflections, 84, 241, 244, 356, 604 (see also Feb., 150), 674.

Giving Meaning to Volume in Calculus. Feb., 110-12.

A Probability Problem Involving Calculus. May, 402-5.

Student Participation: An Experiment in Teaching Calculus. Oct., 543-46.

Understanding Limits. Apr., 286-87.

### Computers and Calculators

Products, 680, 683.

Projects, 683.

Publications, 144, 326, 328, 674-75, 768-69.

Reader Reflections, 3, 6, 63, 159-60, 241, 317, 356, 590, 604, 606.

Communicating Mathematics. Nov., 615-22.

Digits Count: Significant Digits and Calculators. May, 344-46.

A Fractal Excursion. Apr., 265-75.

Fractals and Transformations. Mar., 178-85.

Keeping Current with Technology. Feb., 92-96.

The Mandelbrot Set in the Classroom. Mar., 173-77.

A Monte Carlo Application to Approximate Pi. May, 387-90.

Number Theory and Public-Key Cryptography. Jan., 54-62.

The Probability That a Quadratic Equation Has Real Roots: An Exercise in Problem Solving. Mar., 222-27.

Technology in the Classroom: Beginnings and Endings. Feb., 86-87.

Trigonometry Today. Feb., 98-106.

Trisecting an Angle—Almost. Part 2. Jan., 20-23.

### Courseware

#### Algebra

Algebra I Homework Tutor, Macintosh, 512K, Oct., 570.

Graph Wiz 1.0 or 1.2, Macintosh, Sept., 484, 486.

GyroGraphics, version 2.2, IBM compatible, 512K, Mar., 235.

IFS Explorer, Macintosh, 512KE, Sept., 486.

Interactive Algebra, Apple II, Mar., 235.

#### Arithmetic

Worksheets Unlimited for Basic Math, Apple II series, 64K, Sept., 487-88.

#### Calculus

Calculus T/L: A Program for Doing, Teaching, and Learning Calculus, Macintosh Plus, Mar., 234-35.

#### Geometry

Euclid's Toolbox—Triangles, Macintosh Plus, SE or II, Sept., 484.

Logo Math: Tools and Games, Macintosh with Terrapin Logo, Sept., 486-87.

#### Probability

Geometric Probability, IBM PC or compatible, 256K, Oct., 570.

Probability Lab No. A-262, Apple II series, 128K, Sept., 487.

#### Statistics

Data Insights, Apple II family, 128K, Apr., 320.

#### Tests

TESgen Algebra Test Generator (Version 7.0), Apple II series, (also available for IBM), Apr., 320.



## Trigonometry

- Trig and Analytic Geometry, 1 and 2, Apple IIc, IIs, or IIe, Sept., 487.  
Trig Pak: Software and Tutorials for Trigonometry (Version 2.0), IBM, May, 406.

## Curriculum

- Calendars, Jan., 37-41 (*see also* May, 378); Feb., 113-17; Mar., 197-201; Apr., 288-93; May, 373-77; Sept., 457-61; Oct., 549-53; Nov., 641-45; Dec., 733-37.  
Products, 408-9, 578, 772-74.  
Projects, 146-47, 240, 334-35, 409-10, 412, 774.  
Publications, 66, 142, 320, 322, 326, 328, 329, 488, 490, 492, 496, 572, 573-74, 575-76, 678-79, 764-65.  
Reader Reflections, 82, 83-84, 156, 159, 313, 342, 356, 606.  
The Artist's View of Points and Lines. Feb., 133-38.  
Be Your Own Substitute. Apr. 85-86.  
Classroom Atmosphere. Dec., 724.  
Collaboration and Writing in the Mathematics Classroom. Mar., 166-71.  
Counterintuitive Instances Encourage Mathematical Thinking. Oct., 511-15.  
Developing Communications Skills in Mathematics for Students with Limited English Proficiency. Mar., 186-89.  
Equivalence: A Unifying Concept. Feb., 128-32.  
Evaluation: A New Vision. Apr. 276-84.  
From the Beginning. Sept., 454-55.  
Maintaining Vitality. Jan., 32.  
Mathematics Education in Britain: An American Viewpoint. May, 352-55.  
Mathenger Hunt: Mathematics Matters. Feb., 88-90.  
Maximizing Class Time, Oct., 539.  
MTV in Your Classroom. Sept., 450-52.  
The NCTM's *Standards*: New Dimension in Leadership. Oct., 580-85.  
No Time for Writing in Your Class? Sept., 423-33.  
Note Taking in Mathematics Class. Mar., 190-91.  
Solving the Homework Problem. Sept., 455-56.  
A Strategy for Beginning Class. Oct., 538-39.  
Tips for Note Taking. Dec., 725.  
Using Music in the Classroom. Nov., 632.  
What Will Implementation Take? Sept., 442-49, 478.  
Writing to Learn Mathematics. Oct., 516-21.

## Games and Puzzles

- Products, 409, 578.  
Publications, 236, 378, 679-80, 766, 770.  
Reader Reflections, 378 (*see also* Jan., 37).  
Bingo in the Mathematics Classroom. May, 370-72.

## Geometry

- Products, 498, 576, 680.  
Projects, 683.  
Publications, 68, 142, 236, 238, 325, 328, 488-89, 493, 496, 765-66.  
Reader Reflections, 3, 6-8, 49, 82, 83, 84, 150, 152, 159, 160, 162, 164, 241, 244, 336, 378 (*see also* Jan., 37), 416, 608.  
Area and Perimeter Are Independent. Jan., 33-35.  
Calculating Surface Area. May, 367-69.  
A Chain of Influence in the Development of Geometry. Jan., 15-19.

The Circle and Sphere as Great Equalizers. Nov., 666-72.

- Communicating Mathematics. Nov., 615-22.  
Dissecting a Circle by Chords through  $n$  Points. Apr., 318-19.  
Estimating the Volumes of Solid Figures with Curved Surfaces. May 392-95.  
Euclid and Descartes: A Partnership. Dec., 706-9.  
Exhibiting Connections between Algebra and Geometry. Dec., 703-5.  
Improving Students' Understanding of Geometric Definitions. Mar., 192-94.  
Inscribing an "Approximate" Nonagon in a Circle. May, 396-98.  
Line and Rotational Symmetry. Apr., 296-302.  
Make Your Own Problems—and Then Solve Them. Nov., 647-55.  
A Map-coloring Algorithm. Dec., 759-63.  
Problem Posing in Geometry. Jan., 10-14.  
Starring in Mathematics. Sept., 463-70.  
Trisecting an Angle—Almost, Part 2. Jan., 20-23.  
Van Hiele Levels of Geometric Thought Revisited. Mar., 210-21.

## History

- Products, 238, 240.  
Publications, 142, 238, 240, 408, 489, 575.  
A Brief Look at the History of Probability and Statistics. Nov., 623-30.  
A Celebration in Honor of Isaac Newton. Dec., 727-30.  
A Chain of Influence in the Development of Geometry. Jan., 15-19.  
Egyptian Fractions: Ahmes to Fibonacci to Today. Oct., 561-63.

## Measurement

- Reader Reflections, 156.

## Minicalculators

- Reader Reflections, 148-49.

## NCTM

- Officers, Committees, Projects, and Representatives*  
NCTM Officers and Directors Elected in 1991. Sept., 502-4.  
*President's Message*  
The NCTM's *Standards*: New Dimension in Leadership. Oct., 580-85.

## Number Theory

- Publications, 144, 332.  
Reader Reflections, 2-3, 150, 160, 162, 163, 244, 313, 317, 356, 416, 687 (*see also* Mar., 178), 688.  
Compositions of Positive Integers. Mar., 228-33.  
Egyptian Fractions: Ahmes to Fibonacci to Today. Oct., 561-68.  
Odd Factors and Consecutive Sums: An Interesting Relationship. Jan., 50-53.  
Pascal's Triangle and Fibonacci Numbers. Apr., 314-16, 19.



Recursion and the Central Polygonal Numbers. Dec., 738-46.

### Opinions and Philosophies

Technology in the Classroom: Beginnings and Endings. Feb., 86-87.

### Probability

Products, 578.  
Publications, 575.  
Reader Reflections, 601, 603-4 (*see also* Jan., 64-65).  
A Brief Look at the History of Probability and Statistics. Nov., 623-30.  
Elevator Probabilities: Chances of Coincidences. Jan., 64-65.  
Introducing Probability. Oct., 542-43.  
A Monte Carlo Application to Approximate Pi. May, 387-90.  
Monty's Dilemma: Should You Stick or Switch? Apr., 252-56.  
A Probability Problem Involving Calculus. May, 402-5.  
The Probability That a Quadratic Equation Has Real Roots: An Exercise in Problem Solving. Mar., 222-27.  
WITPO (What Is the Probability Of). Apr., 258-64.

### Problem Solving

Publications, 492-93.

### Statistics

Publications, 67-68, 70, 575, 675.  
Reader Reflections, 416, 418, 606.  
A Brief Look at the History of Probability and Statistics. Nov., 623-30.  
Graphic Methods for Instruction in Data Analysis. Apr., 308-13.

### Teacher Education

Publications, 67, 140, 144, 328-29, 489-90, 493, 573, 765, 770, 772.  
An Alternative to Traditional Student Teaching. Oct., 533-37.  
Teachers' Reasons for Instructional Decisions. Nov., 610-14.

### Teaching Methods

*See* content areas.

### Tests

Projects, 498, 500, 579.  
Publications, 140, 322, 324.  
Reader Reflections, 604, 606.  
Grading Schemes that Reward Students. Nov., 631.  
Questions with Multiple Answers. Nov., 638-40.

### Trigonometry

Publications, 70, 493, 571.  
Discovering the Law of Sines. Nov., 634-35.

Finding Points of Intersection of Polar-Coordinate Graphs. Sept., 472-77.  
Graphing Composites of Trig and Arc trig Functions. Mar., 194-95.  
The Sierra Curve—an Introduction to Periodic Concepts. Sept., 434-41.  
Trigonometry Today. Feb., 98-106.

### Visual Aids and Audiovisual Material

*See* "Products" under content areas.

### Worksheets

Activities to Introduce Maxima-Minima Problems. May, 379-86.  
A Geometric Look at Greatest Common Divisor. Mar., 202-8.  
Keeping Current with Technology. Feb., 92-96.  
Line and Rotational Symmetry. Apr., 296-302.  
Make Your Own Problems—and Then Solve Them. Nov., 647-55.  
The Mandelbrot Set in the Classroom. Mar., 173-77.  
Patterns in the Hundred Chart—Part 1. Jan., 43-48.  
Patterns in the Hundred Chart—Part 2. Feb., 118-24.  
Recursion and the Central Polygonal Numbers. Dec., 738-46.  
The Sierra Curve—an Introduction to Periodic Concepts. Sept., 434-41.  
Starring in Mathematics. Sept., 463-70.  
Supply and Demand—an Application of Linear Equations. Oct., 554-59.  
WITPO (What Is the Probability Of). Apr., 258-64.

Statement of ownership, management and circulation (Required by 39 U.S.C. 3685). 1A. Title of publication, Mathematics Teacher. 1B. Publication no., 00255769. 2. Date of filing, 11 September 1991. 3. Frequency of issue, Monthly—September through May. 3A. No. of issues published annually, nine. 3B. Annual subscription price, \$45. 4. Complete mailing address of known office of publication, National Council of Teachers of Mathematics, 1906 Association Drive, Reston, VA 22091-1593, Fairfax County. 5. Complete mailing address of the headquarters of general business offices of the publishers, same as #4. 6. Full names and complete mailing address of publisher, editor, and director of publications. Publisher, National Council of Teachers of Mathematics, 1906 Association Drive, Reston, VA 22091-1593. Editor, none. Director of Publications, Harry B. Tunis, 1906 Association Drive, Reston, VA 22091-1593. 7. Owner, National Council of Teachers of Mathematics, 1906 Association Drive, Reston, VA 22091-1593. 8. Known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages or other securities, none. 9. The purpose, function, and nonprofit status of this organization and the exempt status for Federal income tax purposes have not changed during preceding 12 months. 10. Extent and nature of circulation. Average no. copies each issue during preceding 12 months. A. Total no. copies, 52 878. B1. Paid and/or requested circulation, sales through dealers and carriers, street vendors and counter sales, none. B2. Paid and/or requested circulation, mail subscription, 49 163. C. Total paid and/or requested circulation, 49 163. D. Free distribution by mail, carrier or other means, samples, complimentary, and other free copies, 1 387. E. Total distribution, 50 550. F1. Copies not distributed, office use, left over, unaccounted, spoiled after printing, 2 328. F2. Copies not distributed, return from news agents, none. G. Total, 52 878. Actual no. copies of single issue published nearest to filing date. A. Total no. copies, 53 984. B1. Paid and/or requested circulation, sales through dealers and carriers, street vendors and counter sales, none. B2. Paid and/or requested circulation, mail subscription, 50 054. C. Total paid and/or requested circulation, 50 054. D. Free distribution by mail, carrier or other means, samples, complimentary, and other free copies, 1 337. E. Total distribution, 51 441. F1. Copies not distributed, office use, left over, unaccounted, spoiled after printing, 2 543. F2. Copies not distributed, return from news agents, none. G. Total, 53 984. 11. I certify that the statements made by me above are correct and complete. James D. Gates, Business Manager.



